RDM remote file server 314 also communicates with RDM contact manager 329 via connection 319. RDM contact manager 329 communicates via connection 318 through WAN interface 106 and ultimately with ISA contact manager 381 (FIG. 3B) within RDM host processor 200. The RDM contact manager 329 and the ISA contact manager 381 cooperate to provide the exchange of files between the ISA 100 and RDM host processor 200.

RDM remote file server 314 also communicates via connection 316 with differencing element 321, compress/decompress element 322 and encrypt/decrypt element 324. Differencing element 321 identifies only the differences (deltas) between a given file stored on the ISA 100 and a server on the corporate LAN 25. Compress/decompress element 322 uses well known algorithms to compress or decompress the deltas provided to it by differencing element 321. Encrypt/decrypt element 324 uses well known algorithms to encrypt or decrypt the compressed deltas provided to it by the compress/decompress element 322. By storing an original of a file in the ISA 100, and a series of deltas to it, the revisions to the file may be easily reconstructed, thereby allowing the files to be easily mirrored across the WAN 15.

RDM contact manager 329 also communicates with file/directory index data element 349 via connection 331. The file/directory index data element 349 indexes and stores metadata for the files or directories that are of interest as defined by the user/group/corporate policies stored in configuration data element 352. Metadata represents data about the data being stored in local storage element 356. For example, the metadata stored in file/directory index data element 349 may include the title, subject, author, and the size of a file stored in local storage element 356.

Simple network management protocol (SNMP) element 339 also communicates with WAN interface 106 via connection 335. SNMP element 339 is a software element,

which allows monitoring of the ISA 100 via the WAN 15. Generally, the SNMP element 339 monitors runtime operation of the ISA 100 and passes health information back to a network management tool (not shown) running somewhere on the corporate LAN 25. Potentially the SNMP element 339 could also update some configuration information for the ISA 100 if the management application were sophisticated enough.

FIG. 3B is a block diagram illustrating the operation of the portion of the ISA software 300 that resides within the RDM host processor 200.

ISA remote file server 358 is a software component that connects to LAN 25 via connection 357 and corresponds to the RDM remote file server 314 of FIG. 3A. ISA remote file server 358 obtains, from local storage element 361 via connection 359, the data that is to be sent to the ISA 100 to allow mirroring of files to occur. ISA remote file server 358 also communicates via connection 374 with differencing element ~~356~~ 376, compress/decompress element 377 and encrypt/decrypt element 378. The operation of differencing element ~~356~~ 376, compress/decompress element 377 and encrypt/decrypt element 378 is similar to the operation of differencing element 321, compress/decompress element 322 and encrypt/decrypt element 324, respectively, as described above. Generally, and as described above, only compressed delta information relating to the files stored on the ISA 100 is exchanged between the ISA 100 and the RDM host processor 200. ISA remote file server 358 also communicates with ISA contact manager 381 via connection 362 to determine which data stored in local storage element 361 is to be transferred to ISA 100.

File/directory polling engine 366 is a software component that communicates with LAN 25 via connection 364 and communicates with file/directory index data element 399 via connection 367. File/directory polling engine 366 is the software

this manner, the ISA 100 emulates the remote network connection and transparently proxies the requested file to the remote computer 11.

If, in block 408, it is determined that the packet is not a file read request, then in block 411 the file proxy routine 307 determines whether the packet is a file "write" request. If the packet is a file write request, then the file proxy routine ~~309~~ 307 will write the packet to local storage element 356 for storage, and emulate the remote network connection, thereby intercepting the packet and executing the request locally within the ISA 100. After the packet is written to local storage in block 412, in block 419 the file proxy routine 307 notifies the RDM contact manager 329 (FIG. 3A) and the RDM remote file server 314 (FIG. 3A) of the file modification so that the data necessary to reconstruct the modified file on the appropriate device (server 21, 22 or 24) connected to the corporate LAN 25 can be mirrored back (transferred) to the RDM host processor 200. The RDM host processor 200 then reconstructs the modified file on the appropriate server 21, 22 or 24, from which the file originated.

If, in block 411, it is determined that the packet was not a file write request, then in block 414 the file proxy routine 307 determines whether the packet contains a "rename" or "delete" request. If the packet detected by the file proxy routine 307 contains a rename or delete request, then in block 416 the file proxy routine 307 accesses the local copy of the file located in local storage element 356 (FIG. 3A) and modifies the metadata for the local copy, emulating the network connection to the remote computer 11, thereby providing the transparent file proxy function in accordance with that aspect of the invention. After the file proxy routine 307 modifies the local copy in local storage element 356, file proxy routine 307 will notify the RDM contact manager 329 and the RDM remote file server 314 so that the modified metadata for the